



## Amended Figure 1 (sheet 1 of 1)

1/20

		Intron 5' to $\beta$ 2.6	
SEQ ID NO:39	1	M G E Y L A E P R G F V C G V E P L	18
SEQ ID NO:38	1	TTCCCTAAATGGGAGAATAACCTCGCTGAACCCCCGCGGGTTTGTGTGGGGTTGAGCCTC	60
		$\beta$ 2.6	Q $\beta$ 2
19	C S Y E Q Y F G P G T R L T V L E D L R		38
61	TGTGCTCCTATGAACAGTACTTCGGTCCCGGCACCAGGCTCACGGTTTAGAGGATCTGA		120
39	N V T P P K V S L F E P S K A E I A N K		58
121	GAAATGTGACTCCACCCAAGGTCTCCTTGTGAGGCCATCAAAAGCAGAGATTGCAAACA		180
59	Q K A T L V C L A R G F F P D H V E L S		78
181	AACAAAAGGCTACCCCTCGTGTGCTTGGCCAGGGGCTTCTTCCCTGACCACGTGGAGCTGA		240
79	W W V N G K E V H S G V S T D P Q A Y K		98
241	GCTGGTGGGTGAATGGCAAGGAGGGTCCACAGTGGGGTCAGCACGGACCCCTCAGGCCTACA		300
99	E S N Y S Y C L S S R L R V S A T F W H		118
301	AGGAGAGCAATTATAGCTACTGCCTGAGCAGCCGCTGAGGGTCTCTGCTACCTCTGGC		360
119	N P R N H F R C Q V Q F H G L S E E D K		138
361	ACAATCCTCGAAACCACCTCCGCTGCCAAGTGCAGTTCCATGGGCTTTCAGAGGAGGACA		420
139	W P E G S P K P V T Q N I S A E A W G R		158
421	AGTGGCCAGAGGGCTCACCAAAACCTGTACACAGAACATCAGTGCAGAGGCCTGGGCC		480
159	A D C G I T S A S Y H Q G V L S A T I L		178
481	GAGCAGACTGTGGAATCACTTCAGCATCCATCATCAGGGGGTTCTGCTGCAACCACATCC		540
179	Y E I L L G K A T L Y A V L V S G L V L		198
541	TCTATGAGATCCTACTGGGAAGGCCACCTATATGCTGTGCTGGTCAGTGGCCTGGTGC		600
199	M A M V K K K N S *		208
601	TGATGGCCATGGTCAAGAAAAAAATTCTGAGACAAACTTTATGCATCCTGAGCCGTT		660
661	CTTCACCCGCCATAGATTTCCTGCACCTCTCTAATTCCCTGTTCTAAGAACTTGTC		720
721	TCTTCTTCCTCCATGGATATCCATCCTCCTCGTTGACACCTTGACTCTGAAA	773	

**Amended Figure 4 (sheet 1 of 4)**

**4/20**

Sequences of intronic J $\beta$  sequences containing Met:

(Met: bold; J $\beta$  exon: italics)

**J $\beta$ 2.1** KGSREVEPPFSPYHVNHQQSIRTCMGNYELIKKH Stop VE  
K Stop TLCGKEVTSPFSLEATWTPGTQLQISNSLCQTLSE  
Stop MDIRSQAKSGI SSI Stop DRPHARSRLPYQFWR Stop **M**  
ENVS NPGSCIEEGEERGRILGSPFLLCNYAE**QFFGP GT**  
**RLTVL** .... (SEQ ID NO:40)

**J $\beta$ 2.6** ELLGNCSGEFWGFWRLYPEFPSRALEREAE Stop QGDFP  
Stop **MGEYLAEPRGFVCV** EPLCSYE**QYFGP GT** RLTVL....(SEQ ID  
NO:41)

Sequences of intronic J $\alpha$  sequences containing Met:

**J $\alpha$ TA31** VSKKKKKKSVTIL Stop NSEPAEGAINSSLGSLDP  
G Stop NVLEHCTGLLPSPKDDP Stop CQDRSSFLWGGGQWIFAVI  
VFCLAHSPRLW Stop PETSPQSTTQEQRVKG Stop LN  
Stop GERDIGHVRTRRNFTQKKNCHLGR Stop SVSMAEV  
PPCPRLVSQLRHGH Stop QKGGLSSLKTNLAESHLPS  
PNEPVVSVDALGSVRRVFAVAEGSRLTRRARWGRTYRG  
WTEASPCLHSSCAA Stop SSCGF Stop TGGRGGWGRGAIPK  
AVACFGICSGLLCLPPWERTHLASRRLDVAGQEDTGVG  
GNSFRGEGERGGRTVVEGVTGGSMSRM Stop SE Stop VKFK  
KLEIKNKKQGRGLQKVYRAGTVDFVMAWHT**VANYGNEK**  
**ITFGAGTKLTIKP**.... (SEQ ID NO:42)

**J $\alpha$ TA46** Stop VFLPGRWEPK Stop EVDRDISNPPCKPLV Stop LPT  
VDTV Stop TI Stop RTLSHIDEGSDDVVHT Stop EDSRDLSLVTSVSDC  
MPIVVHSRVQQTKDRDIKIRWTLS Stop PHLCNQMIFTGSLAN  
GCVA Stop SLTISPLLSPWLSPFGSLSLT Stop NLK Stop  
SIY Stop IIRFLGCITHKKMTSRHININPEERGQRALSQT  
CSELNLTTPCFNQLASAYDQLRQRATDRKWSSRHHLTR  
AL Stop PHQR Stop YFRVQESFPQAGWLERGHGSALRQAME  
AGWEVQHWVSDMECLTV**VTGSGGKLT** LGAGTRLQVNLS...  
(SEQ ID NO:43)

**Amended Figure 4 (cont.) (sheet 2 of 4)**

**5/20**

**J<sub>α</sub>New05** Stop V K D Stop G Y P K T K Stop V C G F A V L C S F G G C M S L P P R  
S L C I T L M G L C Stop L M K S G H S K D L D E E V I I I T A F F H Y Stop L R I Stop  
R S A Stop R Stop F I N V R L M F V L R Stop Y Stop K P N N S K I R L S  
S V T Stop T H I H T H S H T H I L T H W H N H T H T H T L S Q S H T H T H S  
H T S T I T H T L T Q P H T H S L S L S L S L S L S L S L S L P R Q  
C N C I W F P S R N G C C V C L T Stop D M Q S Y Q L V S W L G F C Y C Stop  
F S V K T L P V K E A W C Y Q P Stop S C H Y S N H I Y T Stop P F Y Y F I S  
L K L A Q L I R I Q C W G N K T S G F Stop S S S E Stop L H S Q L L V L R G  
C S K P S Q T L G T K A A R R K A S T R G E D D V A F L G L P L G P S C L L  
V I V R P Q M T V N S G G S N A K L T F G K G T K L S V K S.... (SEQ ID NO:44)

**J<sub>α</sub>S58** W V Stop R F H V T A V A L C S F Stop T S L L H L F Stop L E T L G F R  
L S F L F K K Q S L Stop S K Stop Q D L L C L L S F H I V T K A G R I C S K L G L R L  
L A K V E W M Stop V Stop L V Y R K E R F V L L F F Stop P Stop Stop Y S  
K V K A T T V A S K V L Q A W S V L Q G E T W G N W L T F H G K T G M L F V  
V G L L L L L S S L S L S L K E T Stop Y N T F Stop L S G F E Stop L G I Q  
M C I T C S W Q G S R A V V L N L P N V V A P S P P K T I K L F C C Y F I A  
V T L L L Stop I G M Stop I S Y M Q L I Stop Y A T P V K G S L N P Q R R S  
A L Q D E S R C C R G R W S T V S N V R G A I E L G R N T M P T F E E K K N  
S S L G L E Q D Stop P L F L V S P L P L E K K P F I C N G L S R L M S F  
Stop M R F H V L T Stop Stop D S L G R R S L L P L Q V Stop Stop V F Stop D  
Stop V G N V N C T A K I R R A G I N S Q P L L M L S L Stop N R N Q I R M L  
S S V C V H T P P R A S Stop F D Stop C Q Stop L I Q I F R H L S E Q T S L G  
S L C L N Stop L S R Y L H N C Q I C F T L C C I D S A Stop Stop K Q M R L C  
F P R S F S P R R S S L P P S K Stop H L F T Q R E D V Q R V T Stop L I A A  
A S L H L Y D S L P W K R L K H F I R L I S Stop T D Stop Q P N Stop E E R N  
R F Stop A S F L W L Q F Q A T H L E H L V R H L R N T G A R R E V V S L C G  
L V F L S C T E N F T Q E E E S K Stop V E N Stop Q P G I H M Y T K Q S Stop  
A S A L S G S T V W F P H S P T P A P F I S N T Y I I L F S F S F E F L S A  
M P S H N P S T Y H C L S N P R M D G S G T G R V L F S G P S A E P L K K C  
R L Y P S S Stop V A T R R L G R G Q D E E K P Q E S G T A S L W Stop Y I R  
L N L L S G L K C F S F H L E P M C G S E E V F V V E S A T V A D R L C K C  
**A D I W I W H K S H S M S T.... (SEQ ID NO:45)**

**J<sub>α</sub>New06** K C V F S C S L G L E Q Y C S L H P Q I F S R R I Q C L A L Q T L P V  
Stop P L K G S Y S F F Stop K Stop H R R I P F N V A N C G G D Stop T A Q G P N L C S  
S L L Stop G Q L C L L S H R Stop T S E S G G L F P S L A F P V D E V V L  
S T N F I V K D T H D R Q L L P Y F S L N K F F L C Stop Stop L Stop Q H I S  
A N E F L V I Q I N S S V T Stop T V A S Y P I I Q N S L T H H S A A H C A  
S S N P D L H A S S N K A K R M A C Y Q M Y F T G R K V D E P S E L G S G L  
E L S Y F H T G G S S Q A V G L F I E N M I S T S H G H F Q E M Q F S I W S  
F T V L Q I S A P G S H L V P E T E R A E G P G V F V E H D I T V S S N T N  
**K V V F G T G T R L Q V L P.... (SEQ ID NO:46)**

**Amended Figure 4 (cont.) (sheet 3 of 4)**

**6/20**

**JαNew08** Stop V M F H F L M F Stop N S L P L S Stop R C S E C R V G K L H M L G  
H G G Q H S C T G Y S T A Q P D T T S P T T G E T A P T L P P D T K I F L I V Y L I  
Stop R A K G K I K K L C P E S I L K S P R P S P P Y P H Stop S P A D C K  
F N V I F G S Y Stop K Stop Stop G F L C L M T P T V S L P S F I K G L L F C  
V W P L L A S W F C P H A P L C L F Q G W A G D N S F K S H F D V T D N R D  
K V L A K C N T A H G V F S R H T T S Q L F S S V Q K H G H S Y L M S A I Y  
S D T A K C S F K A G T R D F L W D L F L R L T M G W A F S G S S E M P S W  
I P A L P M E I L W S G Stop T A K P D M F L L Y R L L Q G L E I R T L R E N  
K S F G Stop M G R L L D G S I R K R N D Stop Q E E R P K K N T G Q A L G W  
G G V G M S R K M V T V G I Q E A G S L S Stop E G K Q G F L Stop L K V P S  
Q L S N L N Q Q G H L P F P S D F P V H V G M P L P P T M V C Stop E V G R G  
I D Q E Y V Stop H S Stop G P L F K H E T P E S V R G A K S L G P R R E M Q  
Q S N S S Q Q V W R S T E Q D P V L A L C L T P L A S P D H T A H P S S F S  
Stop P Q E S K V L D R E P E I P Stop P G Q V Q K G W S G A Q G W F L K T L  
W I S I Stop F L I Y N K F Stop L S Stop V I R K M F L L Stop T I P V K G K  
D N I Y R G P L L R C Q F P P W A S M W W G L I L S A S V K F L Q R K E I L  
**C L P G T G S N R L T F G K G T K F S L I P... (SEQ ID NO:47)**

**JαLB2A** Stop V I V T H P L C Stop I P P T R S I F A L S S L Stop L G S L S N V V S  
V T P C P Y L L S R Y K W S K Q I L G F H Stop H S E T D N C V L D I L Q K E G F Q S  
K G S H Y F Y Stop L T H K E A G D N W K V P G E Y L G F Q K A D M A Q C M H S  
Stop K I P Stop L T F I E Y L L Y A C V N A P C T L S H L R G Stop W  
L W G R F Y P T F K G K V E I V T K W L R E N G G P S Stop T S S R P G C P H  
C G L S Q P G S C Stop G L Y R M K Stop P V V L V T T S S V L S Q Stop P  
Stop C L Stop E Q G V R Stop D S L C F L D S D T L K Q N G E C V H E Q F H S  
G S M V N G Q Stop T N L K R S S L W L E S Stop P F S T P L S S L P T F L S  
S W T F I S G K P L H R C L C Stop Stop R S Q I K N Stop E R L S P G H T K N  
L R R Stop L F F Q Y L K N S C V D N G R G Stop H Q R Q N Q K Q Stop M K R R  
P S F S G M L L N G A V G G Q A P L Stop S L E S A L Q G L H S G S S G L R W  
R A L W K E F L W H F R L W I S C E L V L R P H D P S I E D K R V G Y I C  
F F L F L L F Stop Stop P R N R P S N C S Q A E A Y R D F F T L R R Stop R T  
M I S Q C S K W G K K R R E R E R E R E R E R E R E R E M P Stop  
R R A R G Stop T K E V G Stop L C R G Q I Stop S I E V F I S S A L E Stop N  
P S I M Stop V L V T E A V F Stop T G K Q D Q G S E G L P I Stop T L S K G C  
V I A F Stop Stop E R T L A V E R L L L P Q I I C L L R C S L Stop R K S D C  
L P Stop L L G A W G K D L G K L R A D R R S F S A L H S Q A R E R G W G M V  
G A D L C K G G W H C V D R G S A L G R L H F G A G T Q L I V I P... (SEQ ID  
NO:48)

**Amended Figure 4 (cont.) (sheet 4 of 4)**

7/20

**J<sub>α</sub>DK1** Stop V C L F L W I P N L I H C Stop D K C K L F R H V S G V S T V P I H  
P D I T G S K V P S H A F P V L T R K T G S S L Y C W Q A Q Stop G S R L E D A S D  
A Q Q P A W D C P G R E S C S E M P S S L P L G I I L Stop L S S P T Stop  
A R P C L S V A Y S I P A S H T C G C A N I L I E A S G R S Stop G S S M L L  
F Stop G K A S H Stop Stop S K A G Stop L D S P P P K S L H I P G S G L Q V  
Q T T M L V F V Stop V L D M E P G C A C L Q G K H F I G Stop A I S L A H L  
P V S I F F Stop E R I S W Stop Y S H L V H R Q K D D V D V P R W H T V I W  
S Q A L I F P P S I F R C L S V K V I S S S M S P G G R L A C C P S S A V A  
W M A S S C Y P T Stop L Stop C I P I I H L T L Y V Y L L F P Y S Stop M Y C  
H A T V M L F I V S S V S S V V P I Stop T K I Q R P N C L P C L K I I V L E  
K K L E F C C C L Y R H Stop E L R S L A V A R T G Y D F C S V Stop L H T P  
Stop V Stop M R E P V K N L Q G L V S L C L P G R Q S S D I W N R N H G I S  
**Q P..... (SEQ ID NO:49)**

**J<sub>α</sub>TA39** Stop V P D S W Stop L Stop R P P L S H S L Y H T D D H M P Y H S S K V  
E L G F N E E R N Stop M L L V V A V L H P M S H S M F I I T L I T S S D K R K F T R  
R T V T I C Stop T L V K M K V S T G A G A Y C N S G Y Q K D Q A L A R K K L N K  
Stop Stop V D L V K L L Q I F F K N Q Y V S E L T G E Y S A A I L S G F S Y S Y G T T  
V V E P C K R G F H G L N S M L S L Y S S N Q K G G I P S R  
T P K R E E S Stop M L I T S I Stop D H S R L S I F V R Q H G T T I Y N V F  
I W G T R H H Stop R D A Stop Stop G C Stop D P L N L P Q Y L Stop G T V V K  
E L M V H A D K H I P C M G K L S K Stop G C R T G C E Q D R S C R N P R N N  
S S R R A D P E E R A A Q L K H I Q V P Stop I C F D S C T G P A L S V K R K  
C L I I L H K L I Stop G Stop V N V C K N I L Q I L K C Y P H I K Y G S I K  
Q Q K I L K L G Q S Stop T L L R Stop R D G V C S C G S V A T G T G Stop K H  
P L S L M E V Y E L R V T L M E T G R E R S H F V K T S L T V Q I L G L T R  
**G L E L G Q N S K S F Q.....(SEQ ID NO:50)**

**Amended Figure 11 (sheet 1 of 1)**

17/20

Intron 5' to J $\beta$ 2.3	J $\beta$ 2.3	C $\beta$ 2
----------------------------	---------------	-------------

<u>Intron 5' to J<math>\beta</math>2.3</u>	
1 atggggcttcagcggtggaaaggaccgagatgagtctggacacgcagagggcaga 60	
1 H G I S A F G R T R A E S G F A E R D D 20	
	J $\beta$ 2.3
61 ccggttttgtcctggccctccaggctgtgagcacagatacgcagtatggccaggc 120	
21 P F F F L G I Q A F S T D T Q Y F G P G 40	
	C $\beta$ 2
121 acccgctgacagtgtcgaggacactgaaaaacgtgttcccacccgaggtcgctgtgttt 180	
41 T R L T V L E D L K N V F P P E V A V F 60	
181 gagccatcagaagcagagatctcccacacccaaaaggccacactggtgtgcctggccaca 240	
61 E P S E A E I S H T Q K A T L V C L A T 80	
241 ggottctaccccgaccacgtggagctgagctgggtgaatggaaaggagggtgcacagt 300	
81 G F Y P D H V E L S W W V N G K E V H S 100	
301 ggggtcagcacagacccgcagccctcaaggagcagccgcctcaatgactccagatac 360	
101 G V S T D P Q P L K E Q P A L N D S R Y 120	
361 tgcctgagcagccctgagggtctcgccaccttctggcagaaccccgcaaccttc 420	
121 C L S S R L R V S A T F W Q N P R N H F 140	
421 cgctgtcaagtccagttctacggctctcgagaaatgacgagtgaccaggataggcc 480	
141 R C Q V Q F Y G L S E N D E W T Q D R A 160	
481 aaacccgtcacccagatcgtcagccgcaggcctgggttagagcagactgtggcttcacc 540	
161 K P V T Q I V S A E A W G R A D C G F T 180	
541 tccgagtcttaccagcaagggtctgtctgccaccatccttatgagatcttcttaggg 600	
181 S E S Y Q Q G V L S A T I L Y E I L L G 200	
601 aaggccaccttgtatgccgtctggcactgtccatgtatggccatggtaagaga 660	
201 K A T L Y A V L V S A L V L M A M V K R 220	
661 aaggattccagaggctag	678 SEQ ID NO:67
221 K D S R G *	225 SEQ ID NO:51